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IN THE CLAIMS:

Please cancel claims 1-37 without prejudice.

Insert the following new claims.

38. A method of detecting and/or quantifying an antibody in a liquid sample comprising the steps of:

(o') providing a mixture of a liquid phase and a two-component solid phase complex composed of (i) the antibody of the sample, and (ii) a reactant antibody directed against the sample antibody, the reactant antibody being bound to a solid particle;

(p') separating the two-component solid phase complex from the liquid phase;

(q') washing the separated two-component solid phase complex to remove non-complex bound compounds;

(r') adding to the washed two-component solid phase complex a solution of (iii) a ligand in the form of an antigen, an antibody or a hapten, which is optionally labeled, to form a three-compound solid phase complex;

(s') optionally adding to the three-component solid phase complex a solution of (iv) a label compound to form a four-component solid phase complex;

(t') separating the three- or four-component solid phase complex obtained in step (r') or (s'), respectively, from the solution;

(u') washing the separated multi-component solid phase complex to remove non-complex bound compounds; and

(v') performing a detection/measurement of the washed labeled multi-component complex.

39. A method of detecting and/or quantifying an antibody in a liquid sample comprising the steps of:

(o) providing a mixture of a liquid phase and a two-component solid phase complex composed of (i) the antibody of the sample, and (ii) a reactant antibody

directed against the sample antibody, the reactant antibody being bound to a solid particle;

(p) separating the two-component solid phase complex from the liquid phase;

(q) washing the separated two-component, solid phase complex to remove non-complex bound compounds;

(r) adding to the washed two-component solid phase complex a solution of (iii) a ligand in the form of an antigen, an antibody or a hapten, which is bound to biotin or a functional derivative thereof, to form a three-component solid phase complex;

(s) adding to the three-component solid phase complex a solution of (iv) a chemiluminescent compound covalently bound to avidin, streptavidin or a functional derivative thereof to form a four-component solid phase complex;

(t) separating the four-component solid phase complex from the solution;

(u) washing the separated four-component solid phase complex to remove non-complex bound compound (iv); and

(v) initiating a chemiluminescent reaction in the washed four-component solid phase complex and detecting/measuring the resulting chemiluminescence, if any.

40. A method of detecting and/or quantifying an antibody in a liquid sample comprising the steps of:

(o' ') providing a mixture of a liquid phase and a two-component solid phase complex composed of (i) the antibody of the sample, and (ii) a reactant antibody directed against the sample antibody, the reactant antibody being bound to a solid paramagnetic particle;

(p' ') separating magnetically the two-component solid phase complex from the liquid phase;

(q' ') washing the separated two-component solid phase complex to remove non-complex bound compounds;

(r' ') adding to the washed two-component solid phase complex a solution of (iii) a ligand in the form of an antigen, an antibody or a hapten, which is bound to biotin or a functional derivative thereof, to form a three-component solid phase complex;

(s' ') adding to the three-component solid phase complex a solution of (iv) a chemiluminescent compound covalently bound to avidin, streptavidin or a functional derivative thereof to form a four-component solid phase complex;

(t' ') separating magnetically the four-component solid phase complex from the solution;

(u' ') washing the separated four-component solid phase complex to remove non-complex bound compound (iv); and

(v' ') initiating a chemiluminescent reaction in the washed four-component solid phase complex and detecting/measuring the resulting chemiluminescence, if any.

41. A method according to claim 39, wherein the chemiluminescent compound is an acridinium compound.

42. A method according to claim 40, wherein the chemiluminescent compound is an acridinium compound.

43. A method according to claim 38, wherein component (iii) of step (r'), and component (iv) of step (s'), respectively, are added in one operation.

44. A method according to claim 39, wherein component (iii) of step (r) and component (iv) of step (s) respectively, are added in one operation.

45. A method according to claim 40, wherein component (iii) of step (r' ') and component (iv) of step (s' '), respectively, are added in one operation.

46. A method according to claim 39, wherein the three-component solid phase complex formed in step (r) prior to subjecting it to step(s) is washed to remove non-complex bound compounds.

47. A method according to claim 40, wherein the three-component solid phase complex formed in step (r' ') prior to subjecting it to step (s' '), is washed to remove non-complex bound compounds.

48. A method of evaluating and/or predicting the effect of a Specific Allergy Vaccination treatment comprising the steps of:

(h') determining the content of an antibody in a liquid sample using the following assay;

(a') providing a mixture of a liquid phase and a three-component solid phase complex composed of (i) the antibody of the sample, (ii) a reactant antibody directed against the sample antibody, the reactant antibody being bound to a solid particle, and (iii) a ligand in the form of an antigen, an antibody or a hapten,

(b') separating the three-component solid phase complex from the liquid phase,

(c') washing the separated three-component solid phase complex to remove non-complex bound compounds,

(d') adding to the three-component solid phase complex a solution of (iv) a label compound to form a four-component complex,

(e') separating the four-component solid phase complex from the solution,

(f') washing the separated four-component solid phase complex to remove non-complex bound compound (iv),

(g') performing a detection/measurement of the washed labeled four-component complex.

(i') determining the content of the said antibody using the following assay;

(ia') providing a mixture of a liquid phase and a four-component solid phase complex composed of (i) the antibody of the sample, (ii) a reactant antibody directed against the sample antibody, the reactant antibody being bound to a solid particle, (iii) a ligand in the form of an antigen, an antibody or a hapten, and (iv) a label compound, to form a four-component solid phase complex,

(ib') separating the four-component solid phase complex from the liquid phase,

(ic') washing the separated four-component solid phase to remove non-complex bound compounds, and

(id') performing a detection/measurement of the washed labeled four-component complex,

(j') comparing the measurements obtained in step (h') and step (i') and using the comparison to evaluate and/or predict the effect of the Specific Allergy Vaccination treatment.

49. A method of evaluating and/or predicting the effect of a Specific Allergy Vaccination treatment comprising the steps of:

(h) determining the content of an antibody in a liquid sample using the following assay;

(a) providing a mixture of a liquid phase and a three-component solid phase complex composed of (i) the antibody of the sample, (ii) a reactant antibody directed against the sample antibody, the reactant antibody being bound to a solid particle, and (iii) a ligand in the form of an antigen, and antibody or a hapten, which is bound to biotin or a functional derivative thereof,

(b) separating the three-component solid phase complex from the liquid phase,

(c) washing the separated three-component solid phase complex to remove non-complex bound compounds,

(d) adding to the three-component solid phase complex a solution of (iv) a chemiluminescent compound covalently bound to avidin, streptavidin or a functional derivative thereof to form a four-component solid phase complex,

(e) separating the four-component solid phase complex from the solution,

(f) washing the separated four-component solid phase complex to remove non-complex bound compound (iv), and

(g) initiating a chemiluminescent reaction in the washed four-component solid phase complex and detecting/measuring the resulting chemiluminescence, if any,

(i) determining the content of the said antibody using the following assay;

(ia) providing a mixture of a liquid phase and a four-component solid phase complex composed of (i) the antibody of the sample, (ii) a reactant antibody directed against the sample antibody, the reactant antibody being bound to a solid particle, (iii) a ligand in the form of an antigen, an antibody or a hapten, which is bound to biotin or a functional derivative thereof, and (iv) a chemiluminescent compound covalently bound to avidin, streptavidin or a functional derivative thereof, to form a four-component solid phase complex,

(ib) separating the four-component solid phase complex from the liquid phase,

(ic) washing the separated four-component solid phase to remove non-complex bound compounds, and

(id) initiating a chemiluminescent reaction in the washed four-component solid phase complex and measuring the resulting chemiluminescent, if any, and

(j) comparing the measurements obtained in step (h) and step (i) and using the comparison to evaluate and/or predict the effect of the Specific Allergy Vaccination treatment.

50. A method of evaluating and/or predicting the effect of a Specific Allergy Vaccination treatment comprising the steps of:

(h' ') determining the content of an antibody in a liquid sample using the following assay;

(a' ') providing a mixture of a liquid phase and a three-component solid phase complex composed of (i) the antibody of the sample, (ii) a reactant antibody directed against the sample antibody, the reactant antibody being bound to a solid paramagnetic particle, and (iii) a ligand in the form of an antigen, an antibody or a hapten, which is bound to biotin or a functional derivative thereof,

(b'') separating magnetically the three-component solid phase complex from the liquid phase,

(c'') washing the separated three-component solid phase complex to remove non-complex bound compounds,

(d'') adding to the three-component solid phase complex a solution of (iv) a chemiluminescent compound covalently bound to avidin, streptavidin or a functional derivative thereof to form a four-component solid phase complex,

(e'') separating magnetically the four-component solid phase complex from the solution,

(f'') washing the separated four-component solid phase complex to remove non-complex bound compound (iv),

(g'') initiating a chemiluminescent reaction in the washed four-component solid phase complex and detecting/measuring the resulting chemiluminescence, if any,

(i'') determining the content of the said antibody using the following assay;

(ia'') providing a mixture of a liquid phase and a four-component solid phase complex composed of (i) the antibody of the sample, (ii) a reactant antibody directed against the sample antibody, the reactant antibody being bound to a solid paramagnetic particle, (iii) a ligand in the form of an antigen, an antibody or a hapten, which is bound to biotin or a functional derivative thereof, and (iv) a chemiluminescent compound covalently bound to avidin, streptavidin or a functional derivative thereof, to form a four-component solid phase complex,

(ib'') separating magnetically the four-component solid phase complex from the liquid phase,

(ic'') washing the separated four-component solid phase to remove non-complex bound compounds,

(id'') initiating a chemiluminescent reaction in the washed four-component solid phase complex and measuring the resulting chemiluminescence, if any, and

(j' ') comparing the measurements obtained in step (h' ') and step (i' ') and using the comparison to evaluate and/or predict the effect of the Specific Allergy Vaccination treatment.

51. A method of evaluating and/or predicting the effect of a Specific Allergy Vaccination treatment comprising the steps of:

(x') determining the content of an antibody in a liquid sample using the method of claim 38;

(y') determining the content of the said antibody using the following assay:

(ya') providing a mixture of a liquid phase and a three-component solid phase complex composed of (i) the antibody of the sample, (ii) a reactant antibody directed against the sample antibody, the reactant antibody being bound to a solid particle, (iii) a ligand in the form of an antigen, an antibody or a hapten which is labeled or bound to (iv) a label compound, to form a multi-component solid phase complex,

(yb') separating the multi-component solid phase complex from the liquid phase,

(yc') washing the separated multi-component solid phase to remove non-complex bound compounds, and

(yd') performing a detection/measurement of the washed labeled multi-component complex, and

(z') comparing the measurements obtained in step (x') and step (y') and using the comparison to evaluate and/or predict the effect of the Specific Allergy Vaccination treatment.

A20 52. A method of evaluating and/or predicting the effect of a Specific Allergy Vaccination treatment comprising the steps of:

(x) determining the content of an antibody in a liquid sample using the method of claim 39,

(y) determining the content of the said antibody using the following assay:

(ya) providing a mixture of a liquid phase and a four-component solid phase complex composed of (i) the antibody of the sample, (ii) a reactant antibody directed against the sample antibody, the reactant antibody being bound to a solid particle, (iii) a ligand in the form of an antigen, an antibody or a hapten, which is bound to biotin or a functional derivative thereof, and (iv) a chemiluminescent compound covalently bound to avidin, streptavidin or a functional derivative thereof, to form a four-component solid phase complex,

(yb) separating the four-component solid phase complex from the liquid phase,

(yc) washing the separated four-component solid phase to remove non-complex bound compounds,

(yd) initiating a chemiluminescent reaction in the washed four-component solid phase complex and measuring the resulting chemiluminescence, if any, and

(z) comparing the measurements obtained in step (x) and step (y) and using the comparison to evaluate and/or predict the effect of the Specific Allergy Vaccination treatment.

53. A method of evaluating and/or predicting the effect of a Specific Allergy Vaccination treatment comprising the steps of:

(x' ') determining the content of an antibody in a liquid sample using the method of claim 40,

(y' ') determining the content of the said antibody using the following assay:

(ya' ') providing a mixture of a liquid phase and a four-component solid phase complex composed of (i) the antibody of the sample, (ii) a reactant antibody directed against the sample antibody, the reactant antibody being bound to a solid paramagnetic particle, (iii) a ligand in the form of an antigen, an antibody or a hapten, which is bound to biotin or a functional derivative thereof, and (iv) a chemiluminescent compound covalently bound to avidin, streptavidin or a functional derivative thereof, to form a four-component solid phase complex,

(yb' ') separating magnetically the four-component solid phase complex from the liquid phase,

(yc' ') washing the separated four-component solid phase to remove non-complex bound compounds,

(yd' ') initiating a chemiluminescent reaction in the washed four-component solid phase complex and measuring the resulting chemiluminescent, if any, and

(z' ') comparing the measurements obtained in step (x' ') and step (y' ') and using the comparison to evaluate and/or predict the effect of the Specific Allergy Vaccination treatment.

54. A method according to claim 48, wherein step (ia') is carried out by mixing components (i) and (ii), then adding component (iii), and finally adding component (iv), if added.

55. A method according to claim 49 wherein step (ia) is carried out by mixing components (i) and (ii), then adding component (iii), and finally adding component (iv), if added.

56. A method according to claim 50, wherein step (ia' ') is carried out by mixing components (i) and (ii), then adding component (iii), and finally adding component (iv), if added.

57. A method according to claim 51, wherein step (ya') is carried out by mixing components (i) and (ii), then adding component (iii), and finally adding component (iv), if added.

58. A method according to claim 52, wherein step (ya) is carried out by mixing components (i) and (ii), then adding component (iii), and finally adding component (iv), if added.

59. A method according to claim 53 wherein step (ya' ') is carried out by mixing components (i) and (ii), then adding component (iii), and finally adding component (iv), if added.

60. A method according to claim 48, wherein step (ia'), is carried out by mixing components (i), (ii) and (iii), and then adding component (iv), if added.

61. A method according to claim 49, wherein step (ia), is carried out by mixing components (i), (ii) and (iii), and then adding component (iv), if added.

62. A method according to claim 50, wherein step (ia' '), is carried out by mixing components (i), (ii) and (iii), and then adding component (iv), if added.

63. A method according to claim 51, wherein step (ya') is carried out by mixing components (i), (ii) and (iii), and then adding component (iv), if added.

64. A method according to claim 52, wherein step(ya) is carried out by mixing components (i), (ii) and (iii), and then adding component (iv), if added.

65. A method according to claim 53, wherein step (ya' '), is carried out by mixing components (i), (ii) and (iii), and then adding component (iv), if added.

66. A method according to claim 48, wherein the comparison of step (j') is carried out by calculating the ratio of the measurements obtained in the two said steps.

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67. A method according to claim 49, wherein the comparison of step (j) is carried out by calculating the ratio of the measurements obtained in the two said steps.

68. A method according to claim 50, wherein the comparison of step (j' ') is carried out by calculating the ratio of the measurements obtained in the two said steps.

69. A method according to claim 51, wherein the comparison of step (z') is carried out by calculating the ratio of the measurements obtained in the two said steps.

70. A method according to claim 52, wherein the comparison of step (z) is carried out by calculating the ratio of the measurements obtained in the two said steps.

71. A method according to claim 53, wherein the comparison of step (z' ') is carried out by calculating the ratio of the measurements obtained in the two said steps.

72. A method according to claim 48, wherein the comparison of step (j') is carried out at a number of points in time at the start of and during the treatment period, and that any temporal change, which may be observed, is used as a basis for evaluating and/or predicting the effect of the treatment.

73. A method according to claim 49, wherein the comparison of step (j) is carried out at a number of points in time at the start of and during the treatment period, and that any temporal change, which may be observed, is used as a basis for evaluating and/or predicting the effect of the treatment.

74. A method according to claim 50, wherein the comparison of step (j' ') is carried out at a number of points in time at the start of and during the treatment period, and that any temporal change, which may be observed, is used as a basis for evaluating and/or predicting the effect of the treatment.

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75. A method according to claim 51, wherein the comparison of step (z') is carried out at a number of points in time at the start of and during the treatment period, and that any temporal change, which may be observed, is used as a basis for evaluating and/or predicting the effect of the treatment.

76. A method according to claim 52, wherein the comparison of step (z) is carried out at a number of points in time at the start of and during the treatment period,

and that any temporal change, which may be observed, is used as a basis for evaluating and/or predicting the effect of the treatment.

77. A method according to claim 53, wherein the comparison of step (z' ') is carried out at a number of points in time at the start of and during the treatment period, and that any temporal change, which may be observed, is used as a basis for evaluating and/or predicting the effect of the treatment.

78. A method according to claim 38, wherein the label compound is selected from the group consisting of a luminescent label, a chemiluminescent label, an enzyme label, a radioactivity label, a fluorescent label and an absorbance label.

79. A method according to claim 38, wherein the labeled ligand is labeled by a radioactive atom.

80. A method according to claim 38, wherein the separation of the solid phase complex from the liquid phase is carried out by a member selected from the group consisting of magnetic separation, filtration, sedimentation, centrifugation, chromatography and column chromatography.

81. A method of evaluating the immunological status of a subject comprising the steps of:

1) determining the content of an antibody in a liquid sample from the subject using an immunoassay, wherein the reaction between the antibody of the sample and a ligand in the form of an antigen, an antibody or a hapten, the ligand being directed to the Fab region of the sample antibody, is carried out in the presence of other constituents of the sample to obtain a first measurement,

2) determining the content of an antibody in the liquid sample using an immunoassay, wherein the reaction between the antibody of the sample and a ligand in the form of an antigen, an antibody or a hapten, the ligand being directed to the Fab

region of the sample antibody, is carried out in the absence of other constituents of the sample to obtain a second measurement, and

3) interrelating the first and second measurements to express an interference and using the interference as a parameter for evaluating the immunological status of the subject.

82. A method of evaluating the immunological status of a subject comprising the steps of:

A) determining the content of an antibody in a liquid sample from the subject using the following assay protocol (assay A);

(Aa) mixing (i) the antibody of the sample, (ii) an antibody directed against the Fc region of the sample antibody, the reactant antibody being bound to a solid carrier and (iii) a ligand in the form of an antigen, an antibody or a hapten, the ligand being directed to the Fab region of the sample antibody, to form a mixture of a three-component solid phase complex and a liquid phase,

(Ab) contacting the three-component complex with (iv) a label compound to form a mixture of a four-component complex and a liquid phase,

(Ac) washing the four-component solid phase to remove non-complex bound compounds,

(Ad) performing a detection/measurement of the washed labeled four-component complex to obtain a measurement A;

(B) determining the content of the said antibody in the said sample using the following assay protocol (assay B):

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(Ba) mixing (i) the antibody of the sample, and (ii) a reactant antibody directed against the Fc region of the sample antibody, the reactant being bound to a solid carrier, to form a mixture of a two-component solid phase complex and a liquid phase,

(Bb) washing the two-component solid phase complex to remove non-complex bound compounds,

(Bc) contacting the washed two-component solid phase complex with a (iii) a ligand in the form of an antigen, an antibody or a hapten, the ligand being bound to the Fab region of the sample antibody, and (iv) a label compound, to form a mixture of a four-component solid phase complex and a liquid phase,

(Bd) washing the four-component solid phase complex to remove non-complex bound compounds,

(Be) performing a detection/measurement of the washed labeled four-component complex to obtain a measurement B; and

(E) interrelating measurements A and B to express an interference and using the interference as a parameter for evaluating the immunological status of the subject.

83. A method according to claim 82, wherein the label compound is a luminescent label, a chemiluminescent label, an enzyme label, a radioactive label, a fluorescent label or an absorbance label.

84. A method according to claim 82, wherein the (iii) ligand is biotinylated.

85. A method according to claim 84, wherein the (iv) label compound is a chemiluminescent compound covalently bound to avidin, streptavidin or a functional derivative thereof.

86. A method according to claim 81, wherein the subject to be evaluated is undergoing allergy treatment, allergy vaccination treatment or Specific Allergy Vaccination (SAV) treatment.

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87. A method according to claim 82, wherein the subject to be evaluated is undergoing allergy treatment, allergy vaccination treatment or Specific Allergy Vaccination (SAV) treatment.

88. A method of evaluating the effect of allergy treatment of a subject comprising the steps of:

A) determining the content of the said antibody using the following assay protocol (assay A);

(Aa) mixing (i) the antibody of the sample, (ii) an antibody directed against the Fc region of the sample antibody, the reactant antibody being bound to a solid carrier and (iii) a ligand in the form of an antigen, an antibody or a hapten, the ligand being directed to the Fab region of the sample antibody, to form a mixture of a three-component solid phase complex and a liquid phase,

(Ab) contacting the three-component complex with (iv) a label compound to form a mixture of a four-component complex and a liquid phase,

(Ac) washing the four-component solid phase to remove non-complex bound compounds,

(Ad) performing a detection/measurement of the washed labeled four-component complex to obtain a measurement A;

(E) using measurement A as a parameter for evaluating the effect of the treatment.

89. A method of evaluating the effect of allergy treatment of a subject comprising the steps of:

(C) determining the content of the said antibody using the following assay protocol (assay C);

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(Ca) mixing (i) the antibody of the sample, (ii) an antibody directed against the Fc region of the sample antibody, the reactant antibody being bound to a solid carrier and (iii) a labeled ligand in the form of an antigen, an antibody or a hapten, the ligand being directed to the Fab region of the sample antibody, to form a mixture of three-component solid phase complex and a liquid phase,

(Cb) washing the three-component solid phase to remove non-complex bound compounds,

(Cc) performing a detection/measurement of the washed labeled four-component complex to obtain a measurement C, and

(E) using measurement C as a parameter for evaluating the effect of the treatment.

90. A method according to claim 88, wherein the subject to be evaluated is undergoing allergy vaccination treatment or Specific Allergy Vaccination (SAV) treatment.

91. A method according to claim 89, wherein the subject to be evaluated is undergoing allergy vaccination treatment or Specific Allergy Vaccination (SAV) treatment.

92. A method according to claim 88, wherein the evaluation in step E) is carried out at a number of points in time at the start of and during the treatment period, and that any temporal change, which may be observed, is used as a basis for evaluating and/or predicting the effect of the treatment.

93. A method according to claim 89, wherein the evaluation in step E) is carried out at a number of points in time at the start of and during the treatment period, and that any temporal change, which may be observed, is used as a basis for evaluating and/or predicting the effect of the treatment.

94. A method according to claim 82, wherein the carrier is a particle.

95. A method according to claim 81, wherein the sample antibody is a specific IgE.

96. A method according to claim 82, wherein the sample antibody is a specific IgE.

97. A method according to claim 88, wherein the sample antibody is a specific IgE.

98. A method according to claim 89, wherein the sample antibody is a specific IgE.